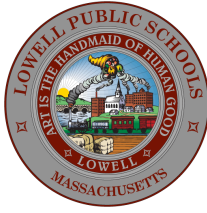LOWELL PUBLIC SCHOOLS

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Feasibility of STEM Programming at LHS

TO: Dr. Joel Boyd, Superintendent of Schools

FROM: Robin Desmond, Chief Academic Officer

DATE: April 26, 2022

The following report is in response to the motion by Dominik Lay:

Ask the Superintendent for a feasibility study for having a STEM Program at Lowell High School.

Below is the response to this motion provided by Jill Rothschild, Lowell High School Assistant Head of School.

Lowell Public Schools

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MEMORANDUM

To: Robin Desmond, Chief Academic Officer, Lowell Public Schools
Fr: Jill Rothschild, Associate Head of School, Lowell High School
Cc: Michael Fiato, Head of School, Lowell High School;
Re: STEM Programs at LHS

The following memorandum seeks to provide an update in response to LPS School Committee Member Lay's request for information regarding a STEM Program at Lowell High School.

At present, Lowell High School provides ten different pathway programs for students. These include: (1) Air Force Junior ROTC, (2) Business: Marketing & Finance, (3) Civics, Citizenship & Communities, (4) Communications (STEM), (5) Culinary Arts, (6) Education, (7) Engineering (STEM), (8) Environmental Sustainability (STEM), (9) Fine Arts, and (10) Health & Bioscience (STEM). Four of LHS' existing pathways offer courses in the STEM field: Communications, Engineering, Environmental Sustainability, and Health and Bioscience. Descriptions of these pathways and the courses taught within each program can be accessed in the LHS course catalog found here.

Currently, LHS Pathway programs provide opportunities for students of all abilities, interests and talents. Students who enroll in, and successfully complete, ten credits within each pathway receive a pathway designation on their transcript and are better positioned for a career/degree in that field post-high school. Within the past year LHS has begun work to reexamine these pathways, their guiding principles and current structure in order to envision more coherent sequencing of academic and pre-career experiences that are accessible, equitable, and supportive. Part of this work has been to inventory current courses within each pathway and department to better identify gaps in instruction, confusion/misunderstanding, and opportunities for growth.

As LHS works to expand Early College and postsecondary pathways for students, it will continue to examine its current STEM offerings, ensure that they reflect current market demands,

and adequately prepare students for success in postsecondary programming. This work will be done in collaboration with existing community partners, colleges and universities and seek to increase the number of students who gain postsecondary credentials and employment in STEM fields.

At present, LHS, in partnership with Middlesex Community College (MCC), is exploring piloting an E-STEM Pathway pending grant funding from the NSF Advancing Innovation Grant. The E-STEM Pathway aims to increase equitable outcomes in STEM education and careers by implementing a guided pathway model from high school to an associates degree that integrates stackable credentials, work based learning, wrap-around supports, and culturally responsive instruction and support. The project focus is on IT, but will be open to any student interested in the full range of STEM fields and offer an opportunity for LHS to reexamine, redefine, and rebrand its current STEM programming. Currently, we offer the MCC Intro to Engineering Dual Enrollment course that could partner with this initiative. Recruitment will begin in grade nine with the 1-credit career exploration course, in which 9th grade students will be introduced to opportunities in STEM, through guest speakers and visits to the MCC campus. Students will be able to officially join the IT pathway starting in their Junior year when they can enroll in the ITC 101 IT Support. A full overview of the proposed opportunity can be found here.